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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,808	10/06/2004	James C. Kleewein	SVL920040039US1	5807
45727 7590 02/08/2007 IP AUTHORITY, LLC RAMRAJ SOUNDARARAJAN 9435 LORTON MARKET STREET #801 LORTON, VA 22079			EXAMINER MORRISON, JAY A	
			ART UNIT 2168	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS			MAIL DATE 02/08/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/711,808	<b>Applicant(s)</b> KLEEWEIN ET AL.	
	<b>Examiner</b> Jay A. Morrison	<b>Art Unit</b> 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Remarks*

1. Claims 1-22,24-25 are pending.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims are useful and concrete, but they fail to product a tangible result because no results are written to non-volatile media or, for example, reported to a user.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7,9-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganesh et al. ('Ganesh' hereinafter) (Patent Number 6,957,236 B1) in view of Odom et al. ('Odom' hereinafter) (Patent Number 6,516,320 B1).

As per claim 1, Ganesh teaches

A computer-based method for versioning in a storage architecture that manages node ranges, said method comprising: (see abstract)

a. receiving a node modification request from a database system; (transaction to modify, column 8, lines 26-30)

b. copying, to a storage, a node range to which said node modification request is to be made; (copy loaded, column 4, lines 61-65)

c. labeling said copied node range with an identifier; and wherein said labeled node range is locatable via said identifier. (version information, column 4, lines 41-54)

Ganesh does not explicitly indicate “and a hash on said node range.”

However, Odom discloses “and a hash on said node range” (dynamic hash includes variable number of entries, column 4, lines 45-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of “and a hash on said node range” would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claim 2, Ganesh teaches  
said identifier is any of the following: a timestamp or a LSN. (column 4, lines 41-54)

As per claim 3, Ganesh teaches

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said storage is a transient storage. (column 4, lines 61-65)

As per claim 4, Ganesh teaches

said node modification request is any of the following: a node insertion request, a node update request, or a node deletion request. (column 8, lines 26-30)

As per claim 5, Ganesh teaches

wherein said method is implemented across a network. (column 12, lines 2-13)

As per claim 6, Ganesh teaches

said network is any of the following: a local area network, a wide area network, or the Internet. (column 12, lines 2-13)

As per claim 7,

Ganesh does not explicitly indicate "said node ranges are associated with hierarchical node data that is derived from any of: a structured document, a computer network, or a directory file system."

However, Odom discloses "said node ranges are associated with hierarchical node data that is derived from any of: a structured document, a computer network, or a directory file system" (column 8, lines 57-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of "said

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node ranges are associated with hierarchical node data that is derived from any of: a structured document, a computer network, or a directory file system” would have given those skilled in the art the tools to improve the invention by allowing many different structures to be used. This gives the user the advantage of being able to utilize the method on a variety of structures.

As per claim 9, Ganesh teaches

A computer-based method for versioning in a storage architecture that manages node ranges via a node id range index, said each node assigned a node id value and a set of nodes forming a node range, each entry in said node id range index pointing to a node range and its range identifier, RID, said method comprising: (see abstract and background)

- a. receiving a node modification request for a range; (transaction to modify, column 8, lines 26-30)
- b. shadowing nodes ... based on RID; (copy loaded, column 4, lines 61-65)
- c. assigning a time identifier to copies of said range; wherein a node in said shadowed range is locatable via said time identifier and RIDs. (version information and time, column 4, lines 41-54)

Ganesh does not explicitly indicate “in said range to a Version Hash Table”

However, Odom discloses “in said range to a Version Hash Table” (dynamic hash includes variable number of entries, column 4, lines 45-64).



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of “in said range to a Version Hash Table” would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claim 10, Ganesh teaches  
said time identifier is any of the following: timestamp or LSN. (column 4, lines 41-54)

As per claim 11, Ganesh teaches  
new readers, after a modification, access current nodes through a new RID.  
(column 4, line 61 through column 5, line 8)

As per claim 12, Ganesh teaches  
previous readers access old nodes via the same RID ... to locate the shadowed copy. (column 4, line 61 through column 5, line 8)

Ganesh does not explicitly indicate “and hashing the same RID ... in said Version Hash Table.”

However, Odom discloses “and hashing the same RID ... in said Version Hash Table” (column 4, lines 45-64).



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of "and hashing the same RID ... in said Version Hash Table" would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claim 13, Ganesh teaches

when modifications cause nodes in a range to be moved to a new RID, previous readers are redirected from the new RID to an old RID (column 4, line 61 through column 5, line 8).

Ganesh does not explicitly indicate "via a Redirection Hash Table."

However, Odom discloses "via a Redirection Hash Table" (column 4, lines 45-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of "via a Redirection Hash Table" would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claim 14, Ganesh teaches

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when modifications cause nodes in a range to be moved to a new RID, previous readers are redirected from the new RID to an old RID via an index that describes where old versions are (column 4, line 61 through column 5, line 8).

Ganesh does not explicitly indicate "in said Version Hash Table."

However, Odom discloses "in said Version Hash Table" (column 4, lines 45-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of "in said Version Hash Table" would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claim 15, Ganesh teaches

said shadowed nodes are copied to a transient storage. (column 4, lines 61-65)

As per claims 16-17,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 5-6 and are similarly rejected.

As per claim 18, Ganesh teaches

for range deletions, the range being deleted is moved to reserved RID .sub.RIDFF. (column 4, lines 54-60)

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As per claim 19,

Ganesh does not explicitly indicate “a reader hashes a Redirection Hash Table on .sub.RIDFF to find a correct Version Hash Table entry.”

However, Odom discloses “a reader hashes a Redirection Hash Table on .sub.RIDFF to find a correct Version Hash Table entry” (column 4, lines 45-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh and Odom because using the steps of “a reader hashes a Redirection Hash Table on .sub.RIDFF to find a correct Version Hash Table entry” would have given those skilled in the art the tools to improve the invention by increasing the speed of access. This gives the user the advantage of not having to wait long periods for results.

As per claims 20-21,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 7-8 and are similarly rejected.

As per claim 22,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 4 and is similarly rejected.

As per claim 23, Ganesh teaches

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said method favors new readers over old readers as old readers have to redirected to shadowed storage. (column 8, lines 40-47)

As per claim 24,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 9 and is similarly rejected.

As per claim 25,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 1 and is similarly rejected.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ganesh et al. ('Ganesh' hereinafter) (Patent Number 6,957,236 B1) in view of Odom et al. ('Odom' hereinafter) (Patent Number 6,516,320 B1) and further in view of Chang et al. ('Chang' hereinafter) (Patent Number 6,584,459).

As per claim 8,

Ganesh does not explicitly indicate "said structured document is an XML document."

However, Chang discloses "said structured document is an XML document" (column 3, lines 48-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ganesh, Odom and Chang because using the steps of "said structured document is an XML document" would have given those skilled in the art the tools to improve the invention by improving interoperability. This gives the user the advantage of being able to use the format across platforms.

### ***Response to Arguments***

6. Applicant's arguments filed 11/22/06 have been fully considered but they are not persuasive.

As per 35 USC § 101 rejections, the remaining rejections regarding claims 1-23 are maintained since the amendments do not overcome the rejections. In order to overcome the rejection it is recommended that the Applicant store to non-volatile media the versioning method claimed or some result, or output some result to a user, any of which would make the claims statutory.

With regards to Applicant's argument that Ganesh does not disclose "node ranges", it is noted that Ganesh discloses a block of data (column 6, lines 7-11), which is equivalent to claimed limitation. Therefore Ganesh discloses the limitation.

With regards to Applicant's argument that Ganesh does not disclose "receiving a node modification request", it is noted that Ganesh discloses modify the version of a row

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(column 8, lines 28-30), which is equivalent to claimed limitation. Therefore Ganesh discloses the limitation.

With regards to Applicant's argument that Ganesh does not disclose "copying, to a storage, a node range to which said node modification request is to be made", it is noted that Ganesh discloses copying the data block to be updated into memory (column 4, lines 61-64), which is equivalent to claimed limitation. Therefore Ganesh discloses the limitation.

With regards to Applicant's argument that Ganesh does not disclose "labeling a copied node range with an identifier", it is noted that Ganesh discloses a versioning system where the updated block is assigned a new version (lines 41-54), which is equivalent to claimed limitation. Therefore Ganesh discloses the limitation.

With regards to Applicant's argument that Ganesh in view of Odom does not disclose "how a labeled node range is locatable via an identifier and a hash on the node range", it is noted that Ganesh discloses versions which are used to identify blocks (column 4, lines 61-65 and column 6, lines 10-14), and Odom discloses a hash on a variable number of entries which may include pointers (column 4, lines 45-57), which is equivalent to claimed limitation. Therefore Ganesh in view of Odom discloses the limitation.

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With regards to Applicant's argument that Ganesh in view of Odom does not disclose "shadowing nodes in said range to a Version Hash Table based on RID", it is noted that Ganesh discloses copying a data block based on a version number (column 4, lines 61-64), and Odom discloses a hash on a variable number of entries which may include pointers (column 4, lines 45-57), which is equivalent to claimed limitation. Therefore Ganesh in view of Odom discloses the limitation.

With regards to Applicant's argument that Ganesh does not disclose "assigning a time identifier to copies of said range; wherein a node in said shadowed range is locatable via said time identifier and RIDs", it is noted that Ganesh discloses times saved for versions of blocks of data which can be used to locate the version (column 4, lines 41-54), which is equivalent to claimed limitation. Therefore Ganesh discloses the limitation.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jay Morrison  
TC2100

Tim Vo  
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A handwritten signature in black ink, appearing to read 'Tim Vo', with a large, sweeping initial 'T'.

TIM VO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100